

I claim:

1. Paddlewheel tangs, comprising:
a primary face having a first end and a second end;
a secondary face having a first end and a second end, wherein the first end of the secondary face is coupled to the second end of the primary face such that the primary face is adapted to move a product in a first direction and the secondary face is adapted to move product in a second direction.
2. The paddlewheel tangs according to claim 1, wherein the primary face is substantially fifty degrees from the secondary face.
3. The paddlewheel tangs according to claim 2, wherein the paddlewheel tangs are disposed around an outer periphery of a truncated conical body.
4. The paddlewheel tangs according to claim 3, wherein the paddlewheel rotates about a central aperture disposed along an axis of the truncated conical body.
5. The paddlewheel tangs according to claim 4, wherein the primary face pushes product in a first rotation direction.
6. The paddlewheel tangs according to claim 5, wherein the secondary face pushes product in a second rotation direction.
7. The paddlewheel tangs according to claim 1, further comprising a crossbar disposed between the primary face and the secondary face to increase the shear strength of the tang.
8. The paddlewheel tangs according to claim 1, wherein the product is ice.
9. The paddlewheel tangs according to claim 8, wherein the product is ice cubes.
10. The paddlewheel tangs according to claim 1, wherein a crest of the tangs is rounded.

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11. The paddlewheel tangs according to claim 1, wherein the tangs are symmetrical in the radial direction.
 12. A paddlewheel, comprising:
a truncated conical body having an outer periphery; and
tangs disposed along the outer periphery of the truncated conical body, the tangs including a primary face coupled to a secondary face, each of which is equally adapted to move product such that the truncated conical body may be rotated in either direction to move the product.
 13. The paddlewheel according to claim 12, wherein the primary face of the tangs pushes the product in a first direction.
 14. The paddlewheel according to claim 13, wherein the secondary face of the tangs pushes the product in a second direction.
 15. The paddlewheel according to claim 12, wherein the tangs include a crossbar to increase the inertial properties of the tangs.
 16. The paddlewheel according to claim 12, wherein a crest of the tangs is rounded.
 17. The paddlewheel according to claim 12, wherein the product is ice.
 18. The paddlewheel according to claim 12, further comprising a central aperture disposed along an axis of the truncated conical body, wherein the paddlewheel rotates about the central aperture.
 19. The paddlewheel according to claim 14, wherein the primary face is symmetrical to the secondary face along the outer periphery of the truncated conical body.

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20. A product dispensing system, comprising:
- a storage bin for housing a product, wherein the storage bin includes a delivery passage;
 - a paddlewheel disposed within the storage bin, the paddlewheel including a central aperture and tangs radially arrayed along an outer periphery of the paddlewheel, wherein the tangs include a primary face and a secondary face; and
 - a drive mechanism coupled to the paddlewheel, wherein the drive mechanism rotates the paddlewheel to move a product with the primary face or the secondary face, thereby delivering product to the delivery passage when the drive mechanism is powered.
21. The product dispenser according to claim 20, wherein the storage bin further comprises a lower shaft aperture.
22. The product dispenser according to claim 21, wherein the drive mechanism further comprises a shaft.
23. The product dispenser according to claim 22, wherein the shaft protrudes through the lower shaft aperture to gain entrance to an interior of the storage bin.
24. The product dispenser according to claim 23, wherein the paddlewheel is disposed on the shaft of the drive mechanism.
25. The product dispenser according to claim 20, wherein the storage bin further comprises a cylindrical inset.
26. The product dispenser according to claim 25, wherein the paddlewheel is disposed within the cylindrical inset to aid the delivery of product to the paddlewheel.
27. The product dispensing system according to claim 20, wherein the paddlewheel may push product in a first rotation direction with the primary face.

28. The product dispensing system according to claim 27, wherein the paddlewheel may push product in a second rotation direction with the secondary face.
29. The product dispensing system according to claim 28, wherein the drive mechanism is powered alternately to move product in a first rotation direction and then a second rotation direction.
30. The product dispensing system according to claim 20, wherein the product is ice.
31. The product dispenser according to claim 24, further comprising a lever disposed on the storage bin such that when the lever is depressed the drive mechanism is powered, thereby rotating the shaft and paddlewheel to push a product with the primary face to a delivery passage for dispensing.
32. A method of manufacturing a paddlewheel adapted to operate in multiple directions, comprising:
- a. providing a body including an aperture and an outer periphery;
 - b. providing tangs disposed along the outer periphery;
 - c. providing a primary face on the tangs for use in moving product in a first rotation direction about the aperture; and
 - d. providing a secondary face on the tangs for use in moving product in a second rotation direction about the aperture.
33. The method of manufacturing a paddlewheel according to claim 32, further comprising:
- e. providing a crossbar disposed on the outer periphery between the primary face and the secondary face to increase strength.